

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A particle producing method comprising:
introducing a carrier gas into a reaction container;
heating an inside of the reaction container; and
introducing a source gas and a reaction inhibitor generating gas into the reaction container,
wherein the source gas produces particles in the reaction container by a thermal decomposition reaction, and
wherein the reaction inhibitor generating gas produces an inhibition component, which inhibits the thermal decomposition reaction with the particles used as a catalyst.
2. (Canceled).
3. (Original) The particle producing method according to claim 1, wherein the reaction inhibitor generating gas includes hydrogen and carbon dioxide.
4. (Original) The particle producing method according to claim 1, wherein diameters of the particles are controlled in accordance with an amount of the reaction inhibitor generating gas introduced into the reaction container.

5. (Original) The particle producing method according to claim 1, wherein the source gas includes $\text{Fe}(\text{CO})_5$.
6. (Original) The particle producing method according to claim 1, wherein the source gas includes $\text{Co}_2(\text{CO})_8$.
7. (Original) The particle producing method according to claim 1, wherein the source gas includes $\text{Ni}(\text{CO})_4$.
8. (Original) The particle producing method according to claim 1, wherein the carrier gas includes nitrogen.
9. (Original) The particle producing method according to claim 1, wherein the carrier gas is an inert gas.
10. (Original) The particle producing method according to claim 1, further comprising:
determining ratio of the source gas to the reaction inhibitor generating gas in a flow rate to control an average diameter of the particles.
11. (Original) The particle producing method according to claim 1, wherein the reaction container is heated at a center part thereof in a carrier gas flowing direction.
12. (Currently Amended) A particle producing method comprising:
pyrolyzing a source gas to produce particles; and

producing an inhibition component, which inhibits the pyrolyzing, from a reaction inhibitor generating gas with the produced particles used as a catalyst, wherein the reaction inhibitor generating gas includes hydrogen and carbon dioxide.

13. (Canceled).

14. (Original) The particle producing method according to claim 12, wherein the source gas includes $\text{Fe}(\text{CO})_5$.

15. (Original) The particle producing method according to claim 12, wherein the source gas includes $\text{Co}_2(\text{CO})_8$.

16. (Original) The particle producing method according to claim 12, wherein the source gas includes $\text{Ni}(\text{CO})_4$.

17. (Original) The particle producing method according to claim 12, further comprising:

determining ratio of the source gas to the reaction inhibitor generating gas in a flow rate to control an average diameter of the particles.

18. (Withdrawn) A particle producing apparatus comprising:

a reaction container;

an introduction portion provided at one end of the reaction container, the introduction portion through which a source gas, a reaction inhibitor generating gas, and a carrier gas are introduced into the reaction container;

a heater provided on an outer wall of the reaction container;

an exhaust portion configured to exhaust the carrier gas and produced particles from the other end of the reaction container;

a cooler configured to cool the produced particles exhausted from the exhaust portion; and

a storage portion configured to store the produced particles from the cooler.

19. (Withdrawn) The particle producing apparatus according to claim 18, wherein the reaction inhibitor generating gas includes hydrogen and carbon dioxide.